DOCUMENT RESUME

ED 410 969 IR 056 463

AUTHOR Eisenberg, Mike; Henson, Jane; Howley, Craig; Cawley, Nancy; Ramirez, Bruce; Rothenberg, Dianne

TITLE Rising Expectations: A Framework for ERIC's Future in the National Library of Education. Report of the ERIC Operations Framework Task Force.

SPONS AGENCY Educational Resources Information Center (ED), Washington, DC.

PUB DATE 1997-08-01

NOTE 18p.

PUB TYPE ERIC Publications (071) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS Access to Information; Development; *Educational Resources; Futures (of Society); Information Dissemination; Information Industry; *Information Services; Information Technology; Technological Advancement

IDENTIFIERS *ERIC; National Library of Education DC

ABSTRACT

This report describes the work that the ERIC system must do in the future in order to accommodate the rising needs of patrons in a networked electronic world. The report highlights two dilemmas that compromise ERIC's continued ability to deliver what patrons expect. The first dilemma concerns ERIC's legacy of remarkable efficiency. While per pupil expenditures have doubled and federal education expenditures have quadrupled (in constant dollars), ERIC's resources have been cut by 80%, though the system has managed to flourish. The second dilemma is that ERIC is a paper-based system in an emerging electronic age. This report recommends four principles of a suitable new operations framework for ERIC: (1) sustain and increase ERIC's capacity to meet rising expectations in the information age; (2) think of ERIC as a key, load-bearing wall as the National Library of Education is built; (3) foster ERIC as the main place for organizing, linking, describing, and making accessible all education resources in all formats; and (4) develop to a much higher level ERIC's historic capacity to create useful and authoritative syntheses, analyses, and interpretations--in other words, the substantive intellectual capacity of each of the 16 ERIC Clearinghouses. (Author/AEF)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 410 969

Rising Expectations: A Framework for ERIC's Future In the National Library of Education

Report of the ERIC Operations Framework Task Force

Task Force Members

Michael Eisenberg (IT)
Jane Henson (SO)
Craig Howley (RC), chair
Nancy Cawley (EDRS)
Bruce Ramirez (EC)
Dianne Rothenberg (PS)

August 1, 1997

TR056463

BEST COPY AVAILABLE

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Craig B. Howley
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Table of Contents

Acknowledgments ii

Executive Summary iii

Introduction 1

The Dilemmas 1

Principles of a New Operations Framework 8

What ERIC Can Do 10

Conclusion 11

References 12

Figures

Figure 1: AskERIC Questions, Volume by Quarter, 1993-1997 5

Figure 2: ERIC Web Transactions, First Virtual Library, 1993-1996 6

Figure 3: ERIC Budget in Constant 1997 Dollars, 1967-1997 7

Acknowledgments

The entire task force joins me in thanking Blane Dessy, director of the National Library of Education (NLE), and Keith Stubbs, ERIC director and director of the NLE's Resource Sharing and Cooperation Division, for consistent support and encouragement, and for their appreciation of the important similarities between this report and *Access for All*, the report of the NLE Advisory Task Force. We are grateful that Blane and Keith fully understand the challenge that the NLE and ERIC, as an important part of the Library, confront together.

The brevity of this report is deceptive. It represents hundreds of hours of conversation, work, and is the result of the varied commitments of many lifetimes in education. ERIC people care passionately about learning and teaching and helping others to consider educational issues thoughtfully.

The members of the task force supplied their undivided support for our joint work, and our colleagues in ERIC also provided consistently helpful and detailed suggestions that had a substantial effect on this document.

And once again I thank Erwin Flaxman, director of the Clearinghouse on Urban Education, for goading me onto this mission. As I was preparing remarks for a meeting, Erwin challenged me to "say something about the restrictions of building a limited database; we never even mention this issue. It's important. Shake people up." At least that's how I now remember it. This report is less shaky, however, than the original remarks, thanks to everyone mentioned, and many not mentioned, above.

--Craig Howley

Executive Summary

The ERIC Operations Task Force, responding to a charge from the ERIC system, has considered an operations framework to guide ERIC as a 21st-century information service. The Task Force believes that the rising expectations of patrons, in a networked electronic world, cannot be accommodated by an outdated, if very efficient, system. This report describes the sort of work that ERIC must do in the future—if its devoted patrons are to continue receiving the excellent service they now expect from the ERIC system.

The report highlights two dilemmas that compromise ERIC's continued ability to deliver what patrons expect. The first dilemma concerns ERIC's legacy of remarkable efficiency. While per pupil expenditures have *doubled* and federal education expenditures have *quadrupled* (in constant dollars), ERIC's resources have been *cut by 80 percent*. Though the system has nonetheless flourished, such success is ERIC's Achilles' heel. The second, and related, dilemma is that ERIC is chained to paper in an emerging electronic age. Working under very tight constraints, ERIC does very well something that not many people will care about ten years hence. How these dilemmas are managed will determine the degree to which ERIC can continue to serve an essential public interest well.

The report recommends four principles of a suitable new operations framework for ERIC: (1) sustain and increase ERIC's capacity to meet rising expectations in the information age, (2) think of ERIC as a key, load-bearing wall as the National Library of Education is built, (3) foster ERIC as the main place for organizing, linking, describing, and making accessible *all* education resources in *all* formats, and (4) develop to a much higher level ERIC's historic capacity to create useful and authoritative syntheses, analyses, and interpretations—in other words, the substantive intellectual capacity of each of the 16 ERIC Clearinghouses.

Rising Expectations: A Framework for ERIC's Future
In the National Library of Education

In September 1996, the ERIC Operations Task Force was asked to conceptualize an operations framework for ERIC as a 21st-century information service. In order to prompt an extended conversation about ERIC's future among leaders in the ERIC system, the Task Force has circulated within and outside of the ERIC system successive drafts of a report about the relevant issues.

This brief final report from the Task Force summarizes the results of these discussions. As we see it, ERIC faces a critical dilemma as the country moves into the 21st century. This report describes this dilemma and suggests the conditions under which ERIC can successfully meet the challenges ahead.

Those who work for ERIC are proud to serve the nation. We ardently believe that ERIC supports informed action to improve education by teachers, parents, and entire communities. We have watched as, within the past decade, more and more people have turned to ERIC as their *primary source* for reliable and appropriate information about education.

The Dilemmas

Originally, ERIC was a pioneering electronic bibliographic database and retrieval system. It was accessed principally by experts and professional researchers. But by 1995, because of advances in CD-ROM technology and the Internet, millions of people were using not only the ERIC database, but also a myriad of other ERIC resources—including peer-reviewed analyses and syntheses of uncommon quality created specifically by ERIC for a diverse audience.

The first dilemma facing ERIC is that it has become excellent by doing more with less. The system is very efficient, leveraging at least 10 times its own resources according to the most extensive evaluation conducted to date (McDonald et al., 1981).

ERIC's success could be its undoing because, without substantial increases in resources, the rising expectations of patrons are not likely to be greeted with ERIC's historically high level of performance. ERIC will not, in the future, do more with less. And ERIC will do less and less well with level funding.

Even if ERIC funding were increased, however, ERIC could still find itself unable to meet the needs of front-line educators unless it changes its operations framework in response to new technologies. In an environment where the mass of education information no longer consists primarily of journal articles and printed reports, but now includes millions of Internet sites and services, nonprint materials, software, and interactions among peers that have no print equivalent, a business-as-usual stance that funds primarily print-based activities will reduce the usefulness of the ERIC system to future users.

Our second dilemma, then, is that ERIC conforms to an outdated operations framework. The emerging electronic world of information and communication requires us to revise our primary mandates—building the ERIC database and providing information services—to take better account of the requirements of that evolving world. If the priority for ERIC remains the development of a print-based bibliographic collection and the provision of print-based services, ERIC will not meet the public's rising expectations.

These two dilemmas—a legacy of efficiency and the outdated operations framework—are interwoven and they must be addressed together. Higher funding levels should be used to address the demands of the changing electronic environment to create an ERIC system that will be as excellent in future decades as it is at present.

Why do these dilemmas pose such difficult problems? With the instant "anytime, anywhere" access that modern telecommunications provides, teachers, students, and researchers all have rising expectations for information service. In the next century,

ERIC services and resources must be as accessible to teachers doing research at home through their Internet-connected television sets as they are to researchers doing research in major academic libraries today. Practitioners now comprise fully 60 percent of ERIC patrons (Ready Reference #7, 1996), and ERIC's patron base has surpassed 1 million contacts[1] per year—including nearly 150,000 letters and toll-free telephone calls per year (*ERIC Annual Report, 1990*). A forward-looking, electronically aggressive ERIC must not only meet the needs of these users, but must also build in mechanisms that allow continual adaptation to the changing electronic environment to meet the needs of future ERIC users.

Several recent ERIC initiatives provide a clear direction for the "new" ERIC, one with an operational framework for the connected educational world of the 21st century. These initiatives have evolved partly because ERIC has embraced E-mail and World Wide Web tools, but also because, despite dwindling resources, ERIC has *created* additional products and services specifically for these new contexts. ERIC is known worldwide for these accomplishments, including:

- the AskERIC E-mail question-answering service,
- the National Parent Information Network,
- the ETS/ERIC Test Locator and related systems,
- very low-cost CD-ROMs ("NISC disk") developed with private industry,
- full-text digitization of ERIC documents (beginning January 1996), and
- ERIC's "smart" search engines on the World Wide Web.

---

[1] These patrons generate many millions of transactions through electronic contacts (see Figure 3, for an example). Staff at ERIC clearinghouses also suspect that many people who discover ERIC become devoted users rather quickly.

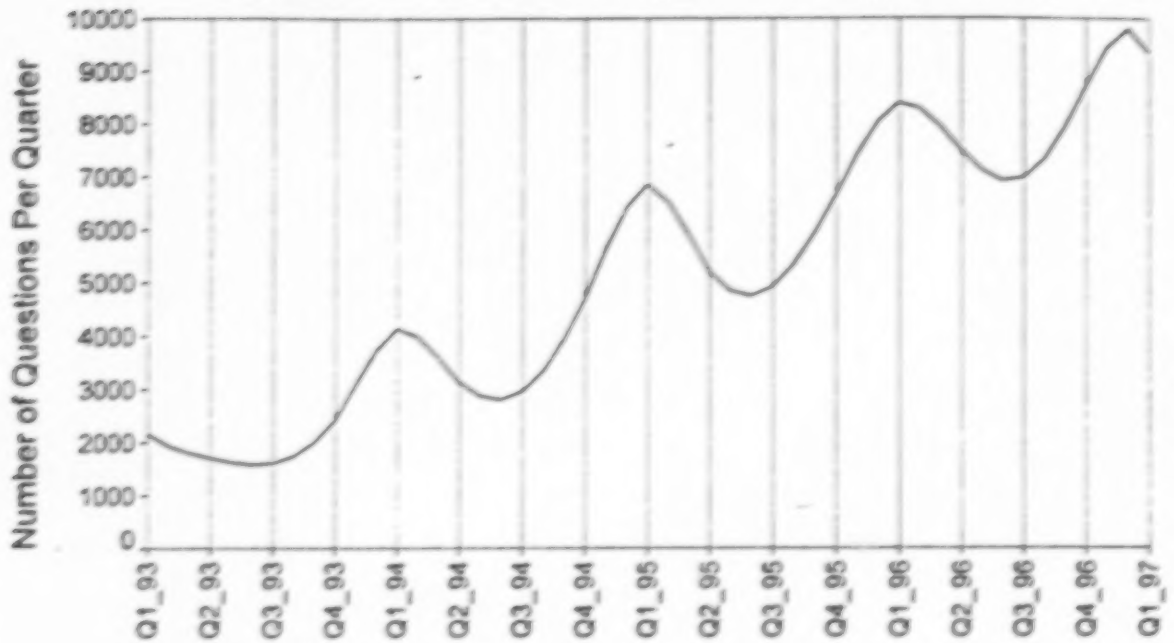
Despite their widely acknowledged successes, none of these services is fully institutionalized within ERIC. Support for these projects is tentative at best, and the mechanisms for creating and maintaining other forward-looking special projects remain ambiguous. The tenuous existence of these award-winning services illustrates the tension between the existing operational framework for ERIC, which stresses print products and limits database building, and our perception of the need for a new framework that stresses expanded database building, dynamic information delivery services, and ongoing evaluation and improvement of all ERIC activities.

We recognize that the common theme for the networked world of today and tomorrow is everlasting change. The existing ERIC system will need to embrace and promote a cycle of research, evaluation, and change in its services for educators in order to sustain its effectiveness and efficiency. ERIC will need to select effective new initiatives and adopt them—not on a five-year contract cycle, but in real-time, as needed. Over the last decade, ERIC has evolved from a passive collection and dissemination system into an active creator and conveyor of knowledge; the challenge now is to sustain and extend its development in this direction.

We present three figures that reveal the scope of the interrelated ERIC dilemmas. Figures 1 and 2 show the sharp growth of just two of ERIC's popular new services. Figure 1 shows the volume of responses delivered by the AskERIC electronic question-answering service, and Figure 2 shows the volume of transactions on one of the many ERIC electronic libraries. While ERIC accomplishes a great deal with minimal resources, its increasing patronage suggests that ERIC will be asked to do *a great deal more*—far outstripping current estimates of ERIC's future budget—in the years ahead.

Figure 1

AskERIC Questions (volume, by quarter)

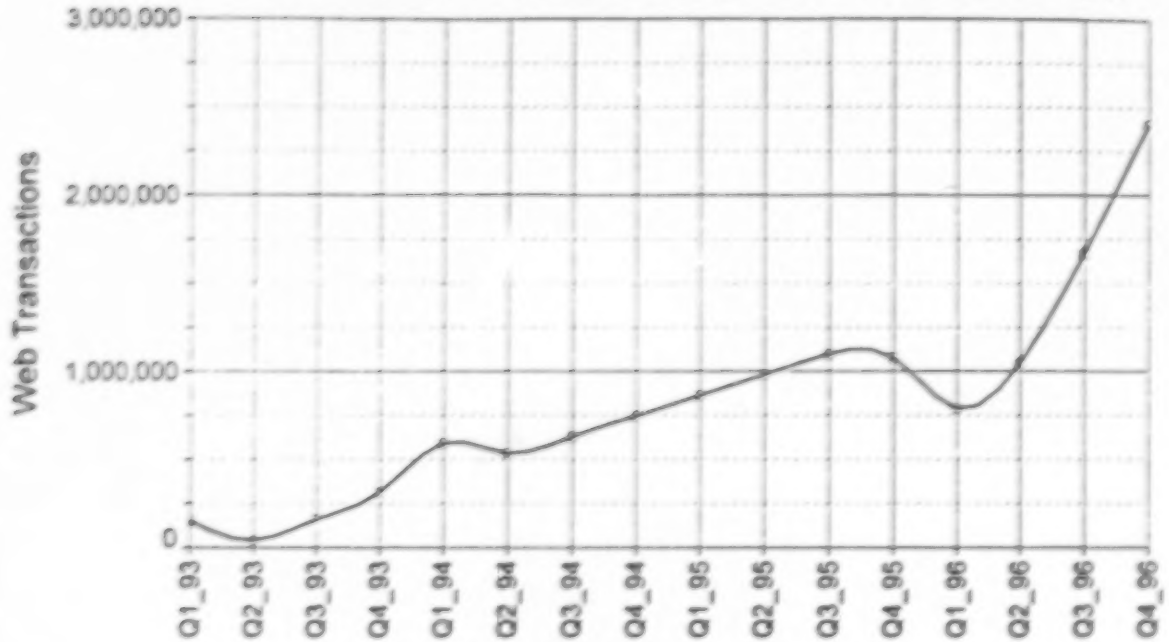


Notes. All Clearinghouses participate in AskERIC.

Smoothed curve.

Figure 2

ERIC Web Transactions (First Virtual Library)



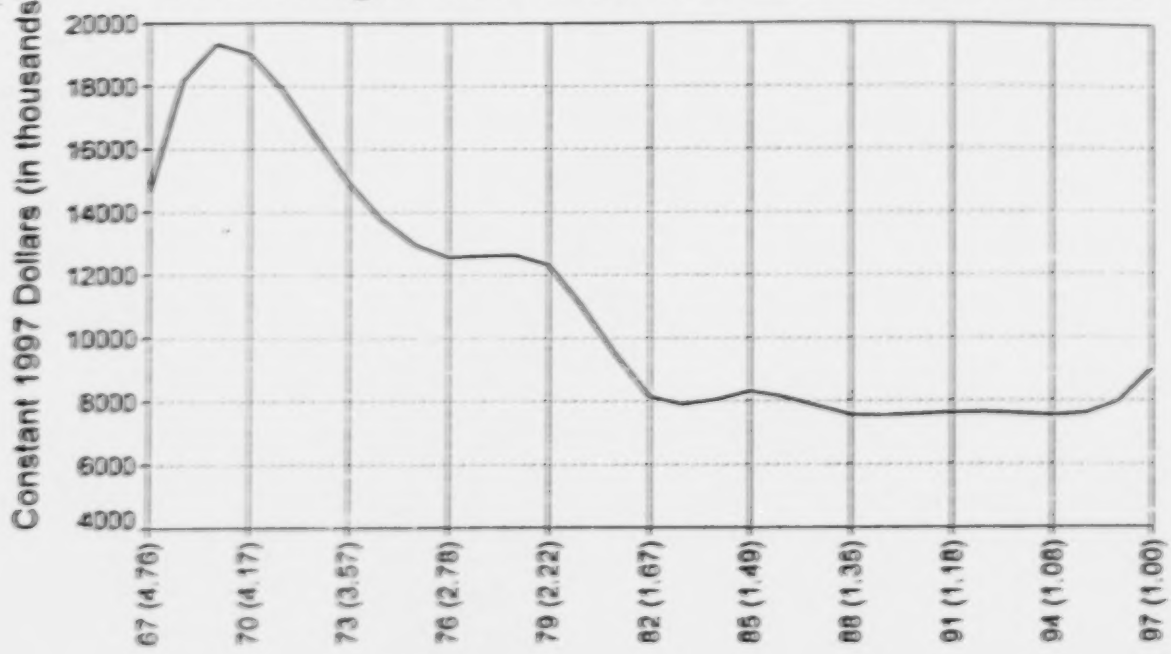
Notes. Data for AskERIC's VL; all Clearinghouses now have VLs.

Smoothed curve.

It is important to note that, at the same time that ERIC has worked to meet the challenges of the information age, the resources under which ERIC has operated have declined. One way to view this situation is in constant 1997 dollars, which provide a historical basis for comparison of resources from the perspective of the present. The peak year for ERIC budgets was 1969, when ERIC was funded at about $19.5 million (in constant 1997 dollars), today ERIC operates at just 21 percent of that level (see Figure 3).

Figure 3

ERIC Budget 1967-1997 in Constant 1997 Dollars



Notes. Inflation factors in parentheses.

Smoothed curve.

Two comparative statistics (again in constant dollars) are worth noting. First, per pupil spending in the U.S. *nearly doubled* between 1970 and 1992 (Orland & Cohen, 1995), and, second, federal support for education *nearly quadrupled* between 1965 and 1996 (Hoffman, 1995). Current resources for ERIC are but a fraction of what they were 30 years ago.

We believe that ERIC's utility and high level of service to education, a result of both dedication and innovation, are in jeopardy. ERIC has come a long way from a "dusty old database" and sets of microfiche in the basements of university libraries. Today, ERIC is working to set standards in information service, to support professional development of teachers and administrators, to provide information for parents in the difficult tasks of raising and educating their children, and to help build the education infrastructure of tomorrow. But ERIC is finding its ability to meet these new demands seriously impaired by limited resources and an aging operations framework.

Principles of a New Operations Framework

As access to, and use of, information expand and change, so have the expectations of ERIC users. The ERIC patron's level of sophistication is increasing. No longer satisfied with a bibliography or a list of citations, the ERIC patron demands full-text documents, custom syntheses, transparent referrals to other organizations and information sources, and real-time conversations with expert problem-solvers. The old ERIC operations framework[2] cannot meet the existing demand for information, nor can it sustain the promising innovations that have already begun. Fortunately, ERIC's innovations (some of which were enumerated above) foretell a new operations framework.

---

[2] That is, a sense of scope and scale that gives top priority to building a limited (primarily print-based) bibliographic database and making it widely available, a priority to which ERIC is certainly confined by the data presented in Figure 3.

We view the creation of the National Library of Education (NLE), ERIC's location in the Library, and the publication of the NLE report, *Access for All*, as timely for the development of a new operations framework for ERIC. The substance of NLE's report is consistent with the thinking of the members of our Task Force and of the ERIC directors in general.[3]

The ERIC Operations Task Force recommends four principles upon which the scope and scale of a new operations framework for ERIC can be based. These principles are:

(1) **ERIC's capacity to meet rising expectations must be sustained and increased.** Innovation is essential to increasing this capacity, and ERIC's innovations must become sustainable. This principle requires not only funding support but also a long-term, focused effort to *engineer*—and continuously re-engineer—an evolving electronic system that will deliver education information responsively to a wide audience.

(2) **ERIC must serve as *a major* load-bearing wall as the National Library of Education is built.** The ERIC system can help the NLE realize its great promise for becoming a prominent national library in the information age.

(3) **ERIC must become "a national union catalog"[4] of educational resources—i.e., the main venue for organizing, linking, describing, and making accessible *all* key education resources in *all* formats.** ERIC can easily expand to create a *comprehensive* information system in

---

[3] We applaud the principles established as the framework of NLE operations: comprehensive service, universal access, free or low-cost service, use of technology and "virtuality," and the integration of ERIC and the NLE. All meet with the hearty approval of ERIC directors.

[4] In the library world a "union catalog" is a joint card catalog of the holdings of a number of institutions. In our conception, however, the "union" encompasses more than the information contained in card catalogs. It includes rich indexing and descriptions, contains links to holdings and to virtual objects, and makes disparate systems compatible—in other words, "interoperable."

education—which we call here a national union catalog—that operates seamlessly with other relevant information systems to enable users to retrieve, locate, and obtain documents, journal articles, nonprint, and electronic materials available in education. This comprehensive ERIC database will serve patrons of the National Library of Education better than a patchwork of additional, separate services.

(4) **ERIC must further develop its historic capacity to create useful and authoritative syntheses, analyses, and interpretations of education information.** This ongoing effort will form the basis of a series of value-added, customer-responsive services. For this work, ERIC must not only retain staff members with superlative scholarly and editorial qualifications (which is a challenge under a regimen of declining resources), but also increase the number of such staff in the 16 decentralized clearinghouses in order to produce more authoritative works of synthesis, analysis, and interpretation. This intellectual capacity cannot be long neglected; it is the foundation of the substantive authority of the ERIC system.

What ERIC Can Do

There is no question that ERIC is a "world class" act—an achievement in which the U.S. educational enterprise can take pride. But ERIC can do more. Given adequate support, ERIC can meet users' rising expectations. We can:

- provide easy and convenient delivery of full-text documents now available only on microfiche;
- negotiate arrangements to provide access to education resources in other databases (e.g., dissertation and thesis abstracts, relevant psychological and sociological literature, and so forth);
- provide or negotiate delivery of full-text education-related journal articles (an initiative not yet contemplated by ERIC);

- provide access to unique specialty databases (e g , for employment options, statistical information, best instructional practice, instructional materials in all fields and specialties, and so forth),
- provide or negotiate delivery of a variety of education-related digital products (e g , software, still and video images, and data sets),
- provide an evolving organizational schema for, and descriptions of, constantly changing World Wide Web sites related to education or useful to educators,
- provide more varied products (in multiple formats) that synthesize, interpret, and otherwise add value to existing resources, and
- provide reliable, context-specific advice on practice (recognizing the blurring distinctions between "technical assistance" and "dissemination," and the need for seamless delivery of both kinds of activities)

Each of the above functions represents a task that ERIC is uniquely qualified to carry out and well-positioned to sustain with adequate resources At the same time, we know that future patrons will expect continuous improvement and accountability in all of ERIC's ventures

Conclusion

Task Force members and ERIC directors believe that NLE/ERIC has the capacity, the vision, and the will to provide what patrons will need from ERIC in the future As Figures 1-3 show, ERIC has dramatically proven that it can do more with very little But in our view, ERIC's ability to do more with less has reached its limit, and substantial additional resources are needed The ERIC system must be sustained to support our citizens in their endeavor to become lifelong learners, to improve education in their communities, and to act with greater understanding of education issues

References

ERIC Processing and Reference Facility. (1996). *ERIC fact sheet* (ERIC Ready Reference #7). Rockville, MD: Author. (Available: <http://ericfac.piccard.csc.com>)

Hoffman, C. (1995). *Federal support for education* (NCES 95-215). Washington, DC: United States Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics. (ERIC Document Reproduction Service No. ED 392 853)

McDonald, D., King, D., King, S., Levitz, A., O'Brien, K., Roderer, N., & Schell, C. (1981). *Cost and usage study of the Educational Resources Information Center (ERIC) System* (Final Report). Rockville, MD: King Research, Inc. (ERIC Document Reproduction Service No. ED 208 902)

National Library of Education Advisory Task Force. (1997). *Access for all: A new national library for tomorrow's learners*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement. (Available World Wide Web: <http://www.ed.gov/pubs/AccessforAll/index.html>)

Orland, M., & Cohen, C. (1995). *State investments in education and other children's services: The fiscal challenges ahead*. Washington, DC: The Finance Project. (ERIC Document Reproduction Service No. ED 394 206)